



# Alaska Health Care Commission

## HEALTH INFORMATION INFRASTRUCTURE WHITE PAPER

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### Alaska's Hospital Discharge Database

#### Background

Statewide hospital discharge data systems are maintained in most states for various administrative and public health purposes. Hospital discharge data provide uniform information on all hospitalizations occurring in participating facilities. These data systems contain demographic characteristics of hospitalized patients as well as principal conditions associated with hospitalization, major medical procedures, discharge status, length of stay, billed charges and payment sources. Administrative uses include tracking of utilization, cost, and quality of health care. Public health uses include analysis of disease burden in state and local populations for conditions such as cardiovascular disease, diabetes, asthma, and tobacco related diseases. Analyses of data from these systems also provide information regarding incidence of domestic violence and child abuse and neglect in communities, and admissions related to mental health and substance abuse conditions.

All but three states in the U.S. currently maintain some form of a hospital discharge data system. 38 states have laws mandating hospital participation in a statewide hospital discharge database, and 44 states currently participate in the national Health Care Utilization Project (H-CUP). The H-CUP is a program of the U.S. Department of Health & Human Services Agency for Health Research and Quality that purchases state discharge data. H-CUP provides web-based public access for data queries, and enables comparisons to other regions and between hospitals and health systems with similar characteristics. *See attachment A for a listing of all states participating in H-CUP, maintaining a statewide discharge data system, and imposing a legislative mandate to report.*

Hospital discharge data systems have been widely adopted across the U.S. in part because they are relatively inexpensive compared to other data collection methodologies such as surveys and medical record reviews. This data is more reliable than other sources, such as self-reporting by patients and individual physician reporting. These systems also capture utilization data on the uninsured, which is not available through reports from third-party payers. Additionally, the population-based nature of this data supports many broad applications, and consistent

collection over time allows trend analyses on health care costs and utilization and health conditions.<sup>1</sup>

Alaska has maintained a hospital discharge database (HDD) since 2001. While not all hospitals participate, they are the only provider group in the state to have entered into a partnership to report data on utilization. When the Alaska HDD was developed stakeholders agreed to a voluntary approach to participation versus a statutorily imposed mandate under state law. It was also agreed that hospitals would submit their data to a contracted data clearinghouse under an agreement with the Alaska State Hospital & Nursing Home Association (ASHNHA). Since its inception Alaska's hospital data has been maintained by the Hospital Industry Data Institute, Inc (HIDI), a subsidiary of the Missouri Hospital Association. The Alaska Department of Health & Social Services (DHSS) provides financial support for the system and has access to the compiled data under terms specified in a Memorandum of Understanding (MOU) between the department and ASHNHA. The MOU governs sharing of the hospital discharge data, providing for data security and confidentiality, and assuring use for public health purposes.

Alaska's larger participating hospitals submit their data to the clearinghouse maintained by HIDI on a quarterly basis, and the smaller hospitals report on an annual basis. Participating hospitals are required to sign HIDI's business associate agreement in compliance with HIPAA<sup>2</sup>. Hospital billing departments transmit encrypted data to HIDI via a secure network. HIDI checks and cleans the data, and works with hospitals to correct errors. Data are aggregated on a calendar year basis. Each participating hospital receives a disc from HIDI with its own record-level data and with a set of analytical reports. ASHNHA is provided state summary data, and DHSS is provided access to the annual data file. Unlike some other states, Alaska's HDD system does not make de-identified data sets available for public use.

Alaska's HDD system initially gathered inpatient data only, but in CY 2007 outpatient and emergency department databases were added. While 30 other states currently participate in H-CUP's ambulatory surgery database, a database for ambulatory surgery is not included in Alaska's system. Alaska's HDD variable set meets H-CUP's minimum data set requirements, and allows up to 17 diagnoses codes to be entered (plus two additional E-codes), and up to 12 procedure codes. *See Attachment B for a list of variables included in Alaska's Hospital Discharge Data System.*

Public health uses of Alaska's hospital discharge data have included analyses supporting numerous plans and reports, including "Tobacco in the Great Land," "The Burden of Cardiovascular Disease in Alaska," "The 2007 Alaska Health Care Data Book," and fact sheets on

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<sup>1</sup> Schoenman, JA, et al. *The Value of Hospital Discharge Databases*, NORC at the University of Chicago and the National Association of Health Data Organizations for the Agency of Healthcare Research and Quality. May 2005.

<sup>2</sup> HIPAA is the Health Insurance Portability and Accountability Act of 1996 (P.L. 104-191). This federal law in part includes provisions to protect security and privacy of personally identifiable health information, and requires entities sharing protected health information to enter into a business associate agreement stipulating how the information will be used and safeguarded. The HIPAA privacy and security provisions generally took effect in 2003.

injury disparities, diabetes, and asthma. Data have been used to support epidemiological studies and reports to the health care provider community on everything from dog bites, to air quality, to RSV<sup>3</sup> and MRSA<sup>4</sup> infections. The Alaska Department of Transportation and Public Facilities has also used HDD data to support highway safety planning.

Specific examples of use of HDD data by Alaska's hospital leaders are not readily available, but in general such data are used by health care executives to inform strategic planning, marketing, and financial decision making; and to enhance quality of care and drive performance improvement activities.

## Current Status

11 of Alaska's 27 hospital facilities currently participate in reporting to the database. Most of the participating hospitals are among the larger facilities in the state, together representing approximately 75% of discharges statewide. Among the facilities not currently participating are Alaska's two military hospitals, two mental health hospitals, six regional tribal health system hospitals, and the long-term acute care hospital. Of note, the Mat-Su Regional Medical Center, serving a significant and growing population, stopped reporting when they discontinued membership in ASHNHA two years ago. It is also worth mentioning that the DHSS-operated state mental hospital does not participate due to an early disagreement between department privacy and security staff and HIDI staff over the HIPAA business associate agreement. See *Attachment C for a listing of Alaska hospitals that participated in the HDD system in 2010.*

DHSS provides a grant of \$87,000 each year to ASHNHA, which uses the majority of these funds to support the contract with HIDI for database maintenance and administration. DHSS does not have a dedicated source of funds for this grant but cobble together a variety of funding sources each year to support it. The DHSS Health Planning & Systems Development Section has been the point of contact between DHSS and ASHNHA and is the liaison for DHSS programs utilizing HDD data for State purposes. This Section has been transferred in reorganizations four times over the past 8 years, which may have in part hampered continuity, support and progress in developing more of an infrastructure within the department for this effort.

H-CUP is seeking to purchase Alaska discharge data for the national data set. Participation in the national system would allow Alaska to be part of a large longitudinal hospital care data set that would enable market analysis and comparison by and for Alaska's hospitals; research on health policy issues such as cost and quality of health services, medical practice patterns, and access to services; and epidemiological studies to support disease and injury prevention and

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<sup>3</sup> Respiratory syncytial virus (RSV) is a virus that causes acute respiratory tract infections, and is a significant cause of hospitalization of infants and young children.

<sup>4</sup> Methicillin-resistant *Staphylococcus aureus* (MRSA) is a strain of staph bacteria that does not respond to some antibiotics commonly used to treat staph infections. MRSA infections most often occur in people who are in hospital or other health care settings.

control activities. Participation in the national system requires ASHNHA approval and an agreement between ASHNHA, HIDI, and H-CUP. In June of this year the ASHNHA board approved the steps necessary to enter into an agreement with H-CUP and ASHNHA leaders are actively working toward this goal. H-CUP may require greater participation by Alaska's hospitals before agreeing to Alaska's participation in the national system. H-CUP might also request inclusion of admission diagnoses in Alaska's data set, though the current data set meets their current minimum data set requirements.

## Challenges

- **Incomplete data:** Participation by only a portion of Alaska's hospitals in the HDD system is insufficient for supporting complete statewide analysis of data for population health and health care quality and cost improvement purposes, as well as other purposes such as local health assessments by community health coalitions, and market analyses and quality and performance improvement planning by hospitals. Reasons for non-participation may include:
  - **Regional tribal facility reporting capacity:**
    - These hospitals converted from federal Indian Health Service (IHS) facilities that did not have a history of billing for services, and may not yet have the capacity in their billing departments to compile and transmit the data files in the required format.
    - These facilities also already comply with many federal IHS reporting requirements and may have determined that additional voluntary data reporting programs impose an excessive burden.
    - Because the one tribal facility that does report – the Alaska Native Medical Center – is the largest tribal hospital and also the tertiary care facility for the entire statewide tribal health system, a decision may have been made at one point that the discharges from that one facility were sufficient in number to provide adequate data on the population served by tribal health system hospitals.
  - **Small rural facility capacity:** The majority of the hospitals not participating (including all the regional tribal hospitals) are small rural facilities which may lack the economies of scale to support capacity for the staff and electronic systems necessary to fulfill the reporting requirements.
  - **HIPAA questions:** Questions regarding application of HIPAA protections of health information and concerns regarding HIPAA-required business associate agreements may have created barriers to participation by the state mental hospital and some federal facilities.
  - **Feedback to facilities:** If communication with the non-reporting facilities by the data users has been insufficient, there may be a lack of understanding by those facilities of the potential and value of participation in the system. Additionally, insufficient communication with reporting facilities may also frustrate those reporters and weaken the overall hospital system's participation in the HDD.

- **Underutilization of the data:** There are many potential uses of the HDD data for planning and decision-making to improve health and health care in Alaska, and the benefits of these data are not being fully realized at this time. Reasons for underutilization of the data may include:
  - **Lack of stable financial support:** In the ten years since its inception DHSS has not established a plan for development, funding, and utilization of the data system. Three Divisions have participated in supporting financing through a loose, ad hoc arrangement over the years – primarily the Division of Public Health, Division of Behavioral Health, and Division of Health Care Services. Funding sources include Medicaid, a number of federal grants, and interagency funds transferred from the Department of Transportation to support injury surveillance and highway safety efforts. Lack of stable financial support may have also hampered ASHNHA’s ability to adequately participate in supporting interactions between the hospitals, HIDI, and DHSS.
  - **Insufficient analytical, data sharing and information dissemination capacity:** Accurate analysis and interpretation of the data requires dedicated staff capacity and application of specialized education and experience. It also requires collaboration with the participating facilities for understanding and resolving data limitations. Dedicated resources for the production and distribution of de-identified datasets and informational reports are also lacking.
  - **Lack of knowledge about the existence and opportunities of the HDD:** All potential users of the system might not know about the data system and the potential uses and benefits of the data.

## Potential Solutions

- **Increasing facility participation:** Three possible options for gaining the participation of non-reporting facilities include:
  1. **Continue voluntary reporting and actively solicit participation:** A renewed focus on two-way communication between all the hospital facilities and the data collection and data user organizations to learn more about and resolve the challenges the facilities face in reporting, and to educate all about the benefits of participation, could generate a voluntary increase in participation.

Regarding HIPAA concerns, state agencies and health care organizations are in a more sophisticated place today compared to ten years ago in the development of HIPAA compliance policies, procedures and agreements. A new attempt to work on the business associate agreement among those organizations that had concerns in the past, accompanied by agency and organization leadership direction regarding the importance of successful negotiations, might be all that is

needed to overcome historical barriers based on HIPAA interpretation and differences over business associate agreement forms.

2. **Statutory mandate:** A state law requiring participation by all Alaskan hospitals in the hospital discharge database would support development of a more complete database and help to overcome questions regarding HIPAA. A state law would not apply to Alaska's two military hospitals, and there may be questions related to application of a state law to other federal facilities operated by tribal health organizations. Enhanced communication with those facilities in this case could generate a voluntary response on their part.

Two governance model options may be pursued under a state law mandating participation by Alaska's hospitals in the hospital discharge data system.

- a) A delegated authority, such as the state hospital association, could be designated to collect the data and required to utilize a data clearinghouse to prepare the data for state use. This model would be in keeping with the current arrangement with ASHNHA.
- b) The law could designate the data be reported directly to a state agency such as the Alaska Department of Health & Social Services.

3. **Regulatory requirement:** A regulation mandating HDD participation under the Alaska Department of Health & Social Service's authority to oversee health facilities in the state or to administer the state's Medicaid program would also support development of a more complete database, and could be a more effective mechanism for overcoming barriers to participation by federal and tribal facilities.

- **Improving use of the data:**

1. **Dedicated leadership attention and resources:** Dedication of funds to provide more stable, consistent and adequate financial support for the data clearinghouse and for data analysis and dissemination capacity is required by all of the partner organizations.
2. **Education, marketing and technical assistance:** Technical assistance on the development of analytic tools, data sharing and information dissemination strategies, and application of information from this data to health care improvement decision making and policy development could be very helpful, and might be obtained through a number of federal agencies, national associations, or private consulting firms.

# Attachment A

## State Hospital Discharge Data Systems

Listing of States Participating in H-CUP, Collecting Discharge Data, and Imposing a Legal Mandate

|                | National H-CUP Participants     |   |  |                          |                          |
|----------------|---------------------------------|---|--|--------------------------|--------------------------|
| States         | State Inpatient Databases (SID) | State Ambulatory Surgery Databases (SASD) | State Emergency Department Database (SEDD) | Discharge Data Collected | Mandated under State Law |
| Alabama        |                                 |   |  |                          |                          |
| Alaska         | <i>*planned</i>                 |   |  | X                        |                          |
| Arizona        | X                               |   | X  | X                        | X                        |
| Arkansas       | X                               |   |  | X                        | X                        |
| California     | X                               | X   | X  | X                        | X                        |
| Colorado       | X                               | X   |  | X                        |                          |
| Connecticut    | X                               | X   | X  | X                        | X                        |
| Delaware       |                                 |   |  | X                        | X                        |
| Florida        | X                               | X   | X  | X                        | X                        |
| Georgia        | X                               | X   | X  | X                        | X                        |
| Hawaii         | X                               | X   | X  | X                        |                          |
| Idaho          |                                 |   |  |                          |                          |
| Illinois       | X                               | X   | X  | X                        | X                        |
| Indiana        | X                               | X   | X  | X                        | X                        |
| Iowa           | X                               | X   | X  | X                        | X                        |
| Kansas         | X                               | X   | X  | X                        | X                        |
| Kentucky       | X                               | X   | X  | X                        | X                        |
| Louisiana      | X                               |   |  | X                        | X                        |
| Maine          | X                               | X   | X  | X                        | X                        |
| Maryland       | X                               | X   | X  | X                        | X                        |
| Massachusetts  | X                               |   | X  | X                        | X                        |
| Michigan       | X                               | X   |  | X                        |                          |
| Minnesota      | X                               | X   | X  | X                        |                          |
| Mississippi    |                                 |   |  | X                        | X                        |
| Missouri       | X                               | X   | X  | X                        | X                        |
| Montana        | X                               |   |  | X                        |                          |
| Nebraska       | X                               | X   | X  | X                        |                          |
| Nevada         | X                               |   |  | X                        | X                        |
| New Hampshire  | X                               | X   | X  | X                        | X                        |
| New Jersey     | X                               | X   | X  | X                        | X                        |
| New Mexico     | X                               |   |  | X                        | X                        |
| New York       | X                               | X   | X  | X                        | X                        |
| North Carolina | X                               | X   | X  | X                        | X                        |
| North Dakota   |                                 |   |  |                          | X                        |
| Ohio           | X                               | X   | X  | X                        |                          |
| Oklahoma       | X                               | X   |  | X                        | X                        |
| Oregon         | X                               |   |  | X                        | X                        |
| Pennsylvania   | X                               | X   |  | X                        | X                        |
| Rhode Island   | X                               |   | X  | X                        | X                        |
| South Carolina | X                               | X   | X  | X                        | X                        |

|                      |            |            |            |            |            |
|----------------------|------------|------------|------------|------------|------------|
| <b>South Dakota</b>  | X          | X          | X          | X          |            |
| <b>Tennessee</b>     | X          | X          | X          | X          | X          |
| <b>Texas</b>         | X          |            |            | X          | X          |
| <b>Utah</b>          | X          | X          | X          | X          | X          |
| <b>Vermont</b>       | X          | X          | X          | X          | X          |
| <b>Virginia</b>      | X          |            |            | X          | X          |
| <b>Washington</b>    | X          |            |            | X          | X          |
| <b>West Virginia</b> | X          |            |            | X          | X          |
| <b>Wisconsin</b>     | X          | X          | X          | X          | X          |
| <b>Wyoming</b>       | X          |            |            | X          |            |
| <b>Totals</b>        | <b>44</b>  | <b>30</b>  | <b>29</b>  | <b>47</b>  | <b>38</b>  |
| <b>Percentages</b>   | <b>88%</b> | <b>60%</b> | <b>58%</b> | <b>94%</b> | <b>76%</b> |

Data Sources:

- H-CUP Participating States: Agency for Healthcare Research and Quality, Healthcare Cost & Utilization Project website accessed July 2011: <http://www.ahrq.gov/data/hcup/>
- State's Collecting Discharge Data and State Statutory Requirements for HDD: "Key State Health Care Databases for Improving Health Care Delivery," National Association of Health Data Organizations, February 2011.

*\* The Alaska State Hospital & Nursing Home Association board approved participation in June 2011, and is working toward establishing an agreement with H-CUP.*



## **Attachment B**

### Variables included in Alaska's Hospital Discharge Database

- Hospital (internal use only)
- Patient (encrypted SSN)
- Type of encounter (e.g., inpatient, swing bed patient)
- Place (e.g., acute med/surg, psychiatric, med rehab, alt level of care, alcohol rehab, drug rehab, other inpatient)
- State (patient residence)
- Zip Code
- Borough
- Date of birth
- Sex
- Ethnicity
- Race
- Admit date
- Admit type (e.g., emergency, urgent, elective, newborn, unknown)
- Admission source
- Discharge status (e.g., home, other locations, died, transferred to swing bed)
- Discharge date
- Diagnoses (1-17, plus 2 E codes)
- Procedure method (all use ICD 9 CM)
- Procedure Codes
- DRG
- Charge
- Pay sources (up to 3)
- Age
- Length of stay
- Additional procedure and revenue code information is now available for the outpatient and ER records, requiring linkage to the encounter record.

### Attachment C

#### Hospitals Participating in the Alaska Hospital Discharge Database in 2010

| Hospital                                       |  | Data Reported for 2010 |
|--|--|------------------------|
| Providence Alaska Medical Center               |  | Inpatient & Outpatient |
| Ketchikan General Hospital                     |  | Inpatient              |
| Bartlett Regional Hospital                     |  | Inpatient & Outpatient |
| Fairbanks Memorial Hospital                    |  | Inpatient & Outpatient |
| Alaska Regional Hospital                       |  | Inpatient & Outpatient |
| Central Peninsula Hospital                     |  | Inpatient & Outpatient |
| Alaska Native Medical Center                   |  | Inpatient              |
| Providence Valdez Medical Center               |  | Inpatient & Outpatient |
| Providence Seward Medical Center               |  | Inpatient & Outpatient |
| Providence Kodiak Island Medical Center        |  | Inpatient              |
| South Peninsula Hospital                       |  | Inpatient & Outpatient |
| Mat-Su Regional Medical Center                 |  | None                   |
| Cordova Community Medical Center               |  | None                   |
| USAF 3 <sup>rd</sup> Medical Group – Elmendorf |  | None                   |
| Sitka Community Hospital                       |  | None                   |
| Petersburg Medical Center                      |  | None                   |
| Wrangell Medical Center                        |  | None                   |
| Mt. Edgecumbe Hospital                         |  | None                   |
| Kanakanak Hospital                             |  | None                   |
| Yukon Kuskokwim Delta Regional Hospital        |  | None                   |
| Norton Sound Regional Hospital                 |  | None                   |
| Maniilaq Medical Center                        |  | None                   |
| Samuel Simmonds Memorial Hospital              |  | None                   |
| Bassett Community Army Hospital                |  | None                   |
| St Elias Long Term Acute Care Hospital         |  | None                   |
| Alaska Psychiatric Institute                   |  | None                   |
| North Star Hospital                            |  | None                   |
| Washington Hospitals                           | Discharge data for Alaskan patients are purchased and included in Alaska's Hospital Discharge Database |                        |